

532

DART AEROSPACE LTD		Work Order:	23914
Description: Bolt <small>RF 04.02.09</small>		Part Number:	D3121-21
Dwg: D3121 Rev. B2 < 04.02.19 KJ CP		Qty:	100 102

Page 1 of 1

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler Dwg NOT REQD <small>RF 04.03.23</small>	RF	05/08/02	100
2	MC	Turn D3121-21 Material: AISI 303 SS 1/2" Hex Bar (M303H0.500) Identify as D3121-21			
3	MV	Deburr break all sharp edges 0.005" to 0.010"	ML	05/08/03	102
4	QC2	Inspect parts as they come off the CNC machine	ML	05/08/03	102
5	QC8	Second check	ML	05/08/03	102
6	ST	Identify and Stock	EN	05.08.06	102
7	AC	Cost / part <u>2.13</u>	34C	05.08.06	102
8	DC	Close W/O <u>2.59</u> Inspect Level 21	RF	05/08/07	102
9					

Rev	Date	Change	Revised By	Approved
A	04.02.09	New issue	KJ/DS	RF

RELEASED
04.02.09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____

PAR #: _____

Fault Category: _____

NCR: Yes

 No 
DQA:  Date: 05/08/07

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____

DART AEROSPACE LTD	Work Order:	2394
Description: Bolt	Part Number:	D3121-21
Inspection Dwg: D3121	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Measured by:	any	Audited by:	SD	Prototype Approval:	N/A
Date:	05/08/04	Date:	05.08.04	Date:	N/A

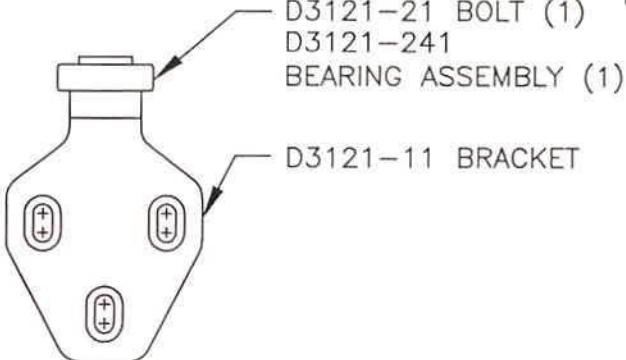
Rev	Date	Change	Revised by	Approved
A	04.02.27	New Issue	KJ/RF	<i>[Signature]</i>

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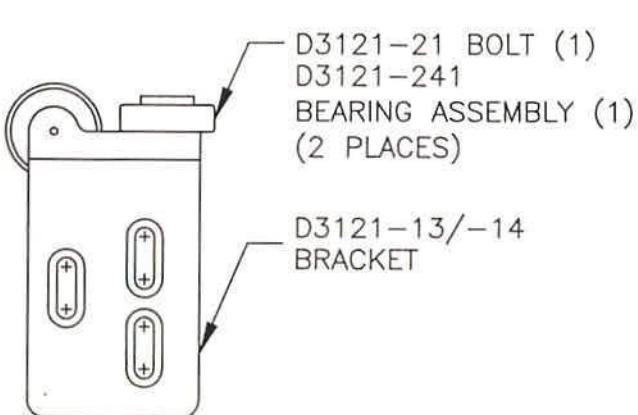
DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C
		D3121	SHEET 1 OF 10

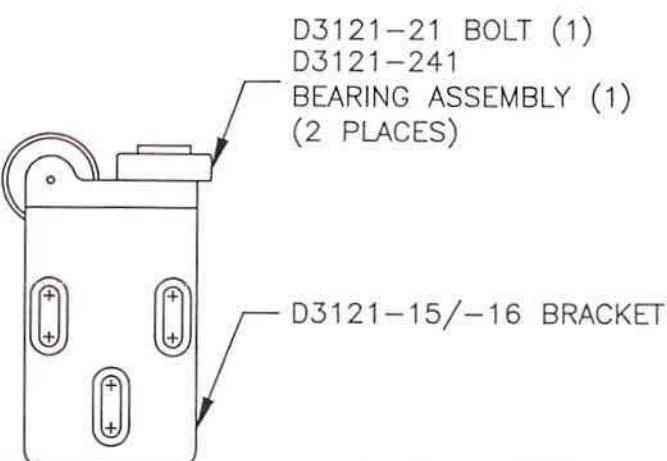
DATE	TITLE		SCALE
04.02.17	BRACKET ASSEMBLY		1:2

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04.03.01

D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)

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WITHOUT NOTICE**WORK ORDER**NO. 2394

D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-37/-38)



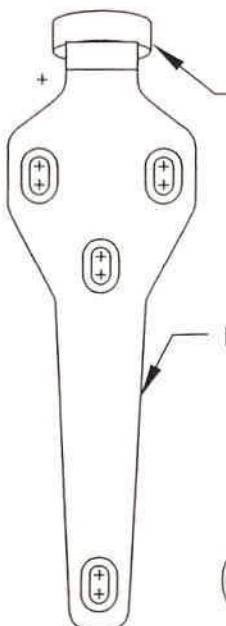
D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-35/-36)

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		DRAWING NO. D3121	SHEET 2 OF 10
DATE	TITLE	SCALE	1:2
04.02.17	BRACKET ASSEMBLY		



D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-111 BRACKET

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

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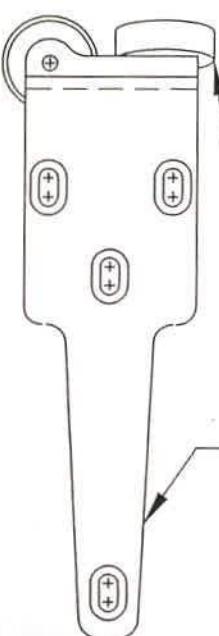
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WORK ORDER
NO. 2394

D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

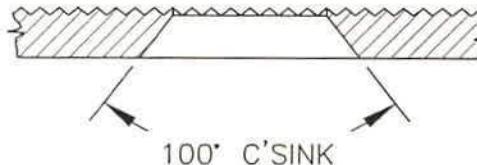
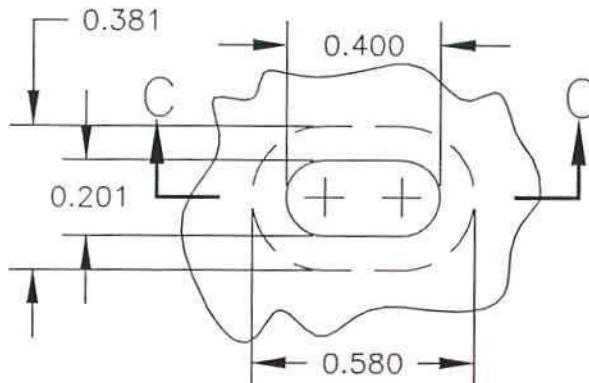
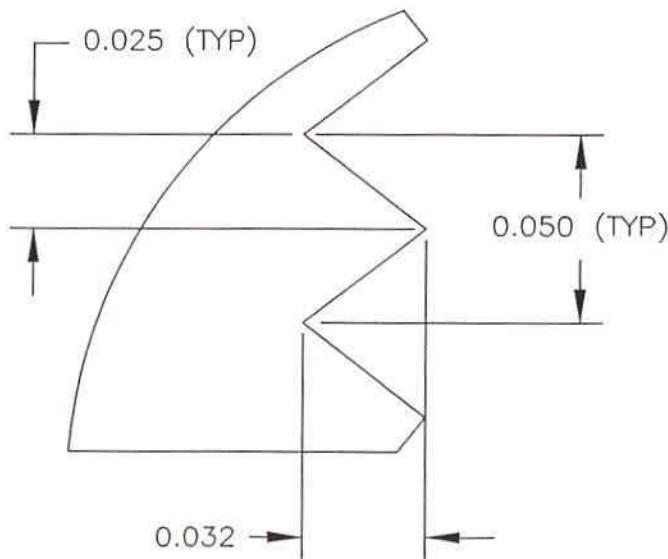
D3121-115/-116
BRACKET

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-05/-06)

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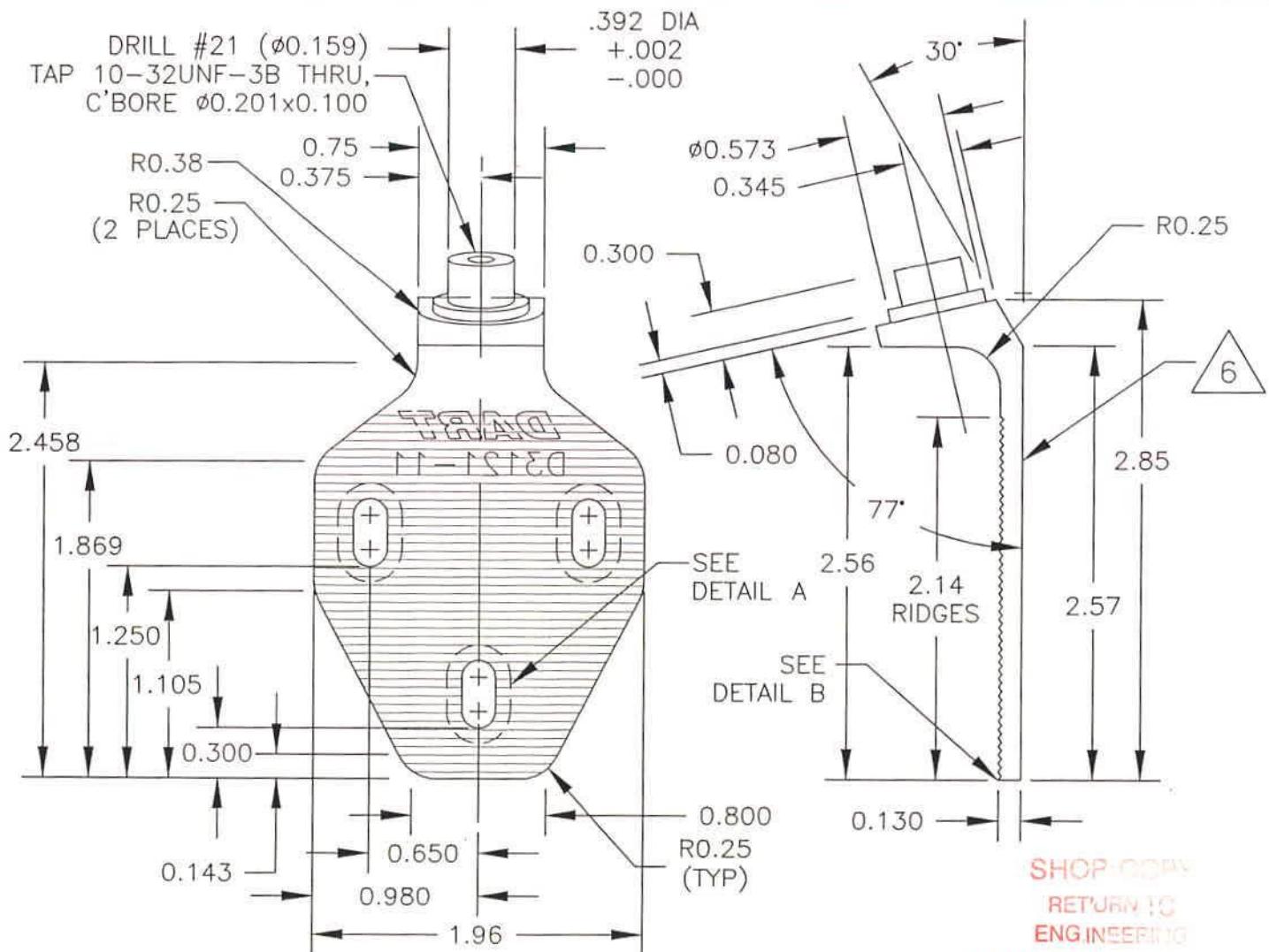
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C

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3121 REV. C
DATE		SHEET 3 OF 10 TITLE SCALE BRACKET ASSEMBLY 1:1

RELEASED
04.03.01 ADETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATEDSECTION
C-CSHOP COPY
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NO. 2394DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



DESIGN <i>CH</i>	DRAWN BY <i>IP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>CH</i>	APPROVED <i>CH</i>	DRAWING NO. D3121	REV. C SHEET 4 OF 10
DATE 04.02.17	TITLE BRACKET ASSEMBLY		SCALE 1:1



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WORK ORDER

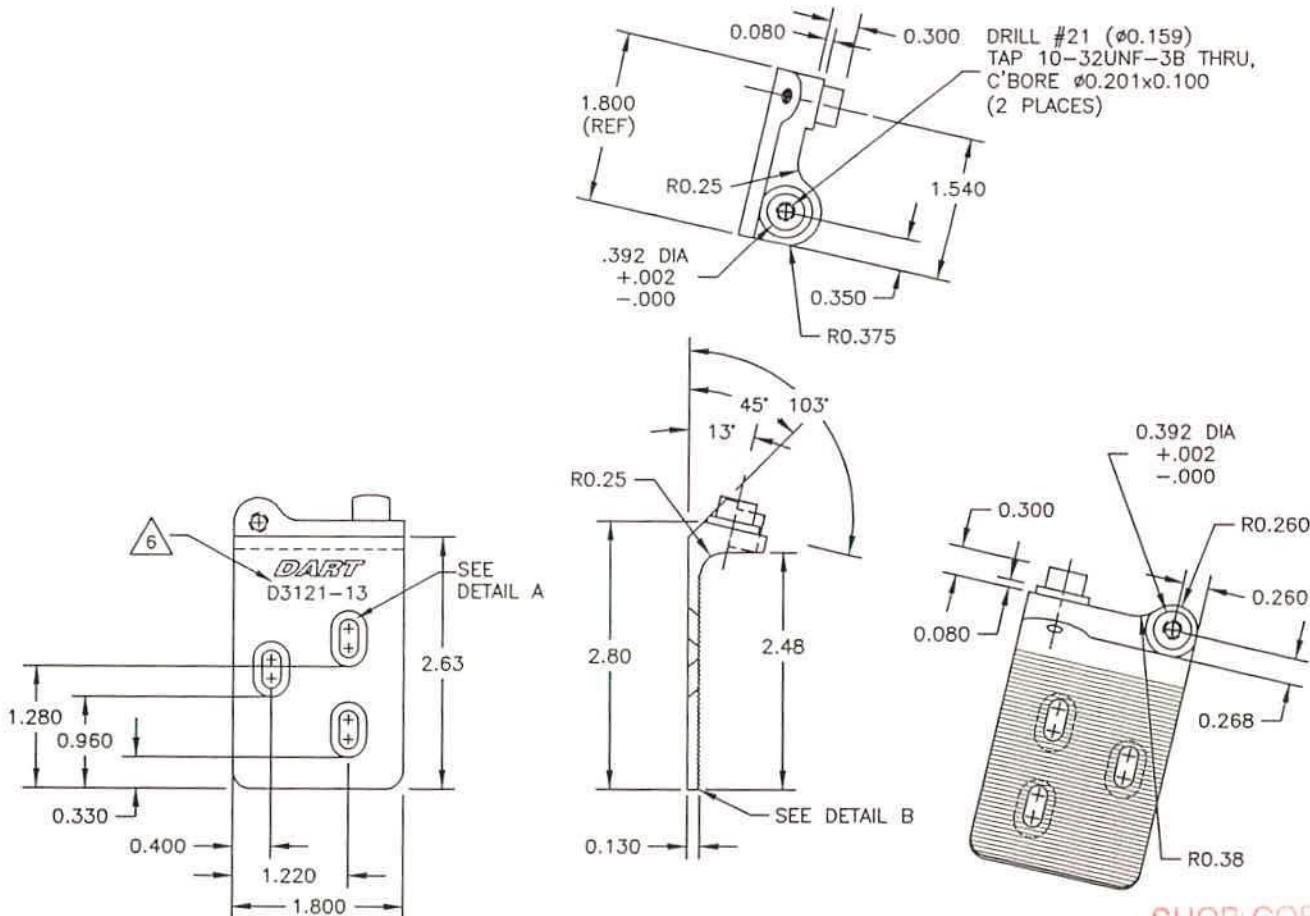
D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

RELEASER
04 03 01 98



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C
		D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
04.02.18		BRACKET ASSEMBLY	1:2



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WORK ORDER

NO. 2394

D3121-13 BRACKET (SHOWN)

D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE STRENGTH = 150 ksi

MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

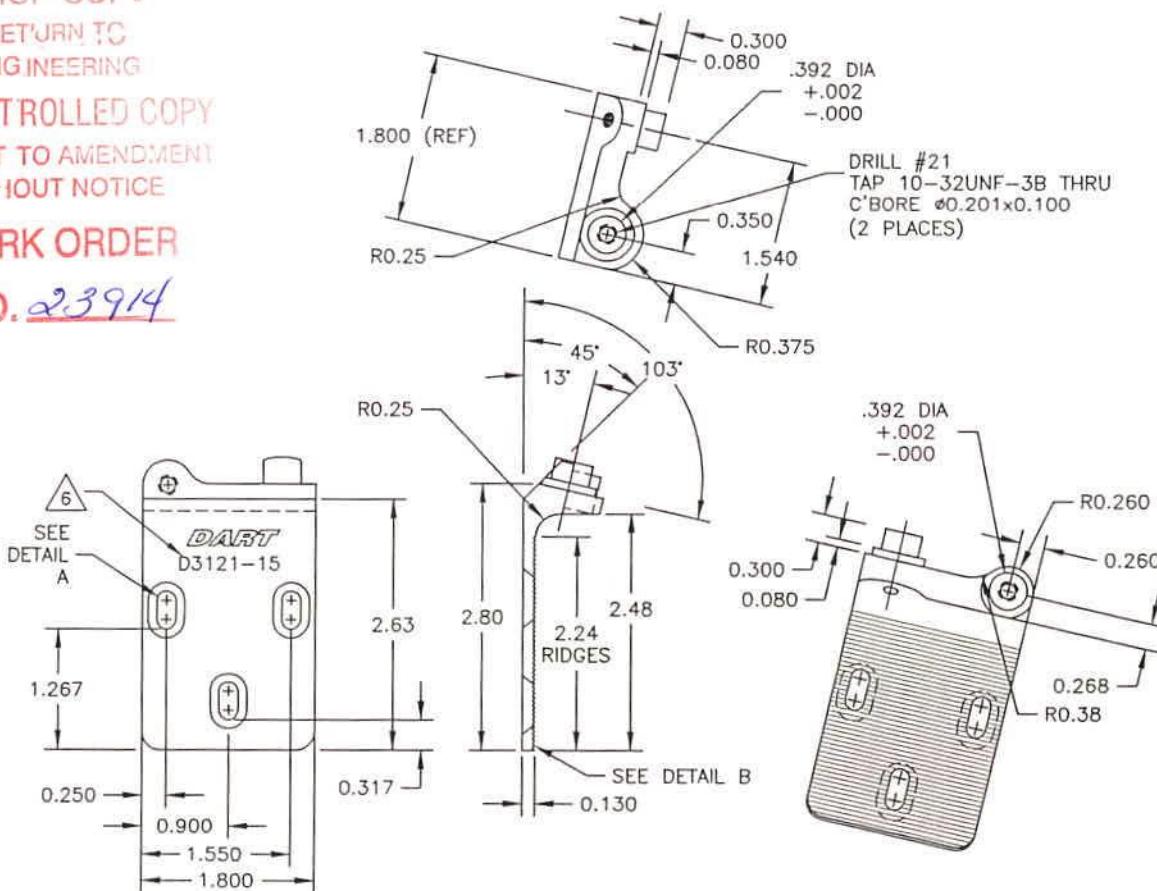
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DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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DATE	04.02.18	D3121	SHEET 6 OF 10

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WITHOUT NOTICE
WORK ORDER
NO. 23914



D3121-15 BRACKET (SHOWN)

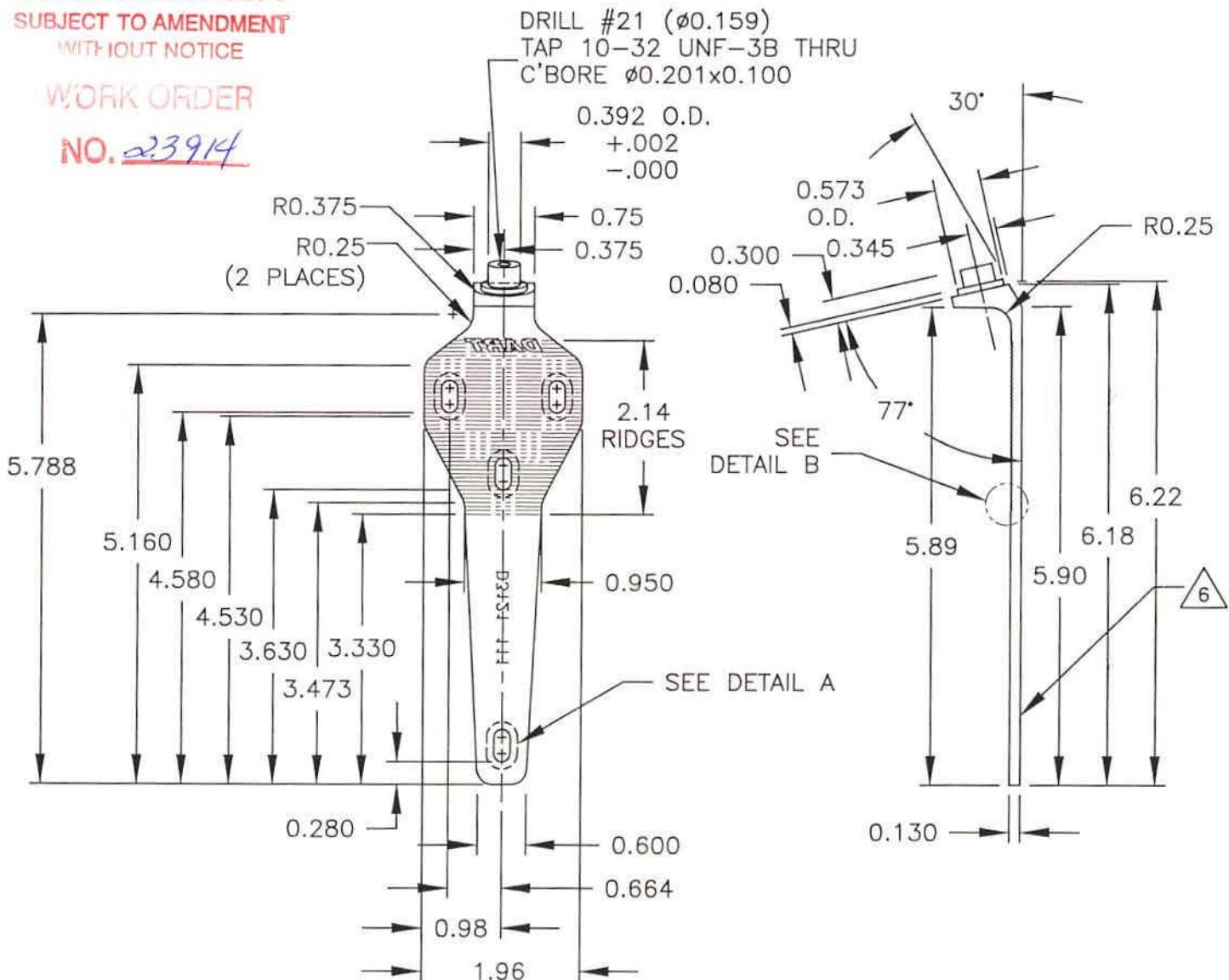
D3121-16 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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04-0301

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DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
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DATE	04.02.18	REV. C SHEET 7 OF 10 TITLE SCALE 1:2

UNCONTROLLED COPY**SUBJECT TO AMENDMENT
WITHOUT NOTICE****WORK ORDER****NO. 23914****D3121-111 BRACKET**

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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04.03.01



This technical drawing shows a bracket assembly with various dimensions and features. Key dimensions include:

- Overall width: 1.800
- Top horizontal distance from top edge to top hole: 0.490
- Radius from top edge to top hole: R0.25
- Radius from top edge to top hole: R0.50
- Bottom horizontal distance from top edge to top hole: 3.80
- Radius from top edge to top hole: R0.65
- Bottom horizontal distance from top edge to top hole: 4.00
- Radius from top edge to top hole: R0.130
- Vertical distance from top edge to top hole: 2.540
- Vertical distance from top edge to top hole: 2.220
- Vertical distance from top edge to top hole: 1.590
- Vertical distance from top edge to top hole: 1.170
- Vertical distance from top edge to top hole: 0.518
- Vertical distance from top edge to top hole: 0.160
- Vertical distance from top edge to top hole: 0.188
- Vertical distance from top edge to top hole: 0.400
- Vertical distance from top edge to top hole: 1.220
- Vertical distance from top edge to top hole: 1.600
- Radius from top edge to top hole: R0.38
- Radius from top edge to top hole: R0.260
- Radius from top edge to top hole: R0.268
- Radius from top edge to top hole: Ø0.392 O.D. +.002 -.000
- Angle: 13°
- Angle: 103°
- Angle: 45°
- Callout 'SEE DETAIL A' points to a view of a hole with a radius of R0.38.
- Callout 'SEE DETAIL B' points to a view of a vertical section with a radius of R0.130 and a height of 3.41.

D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

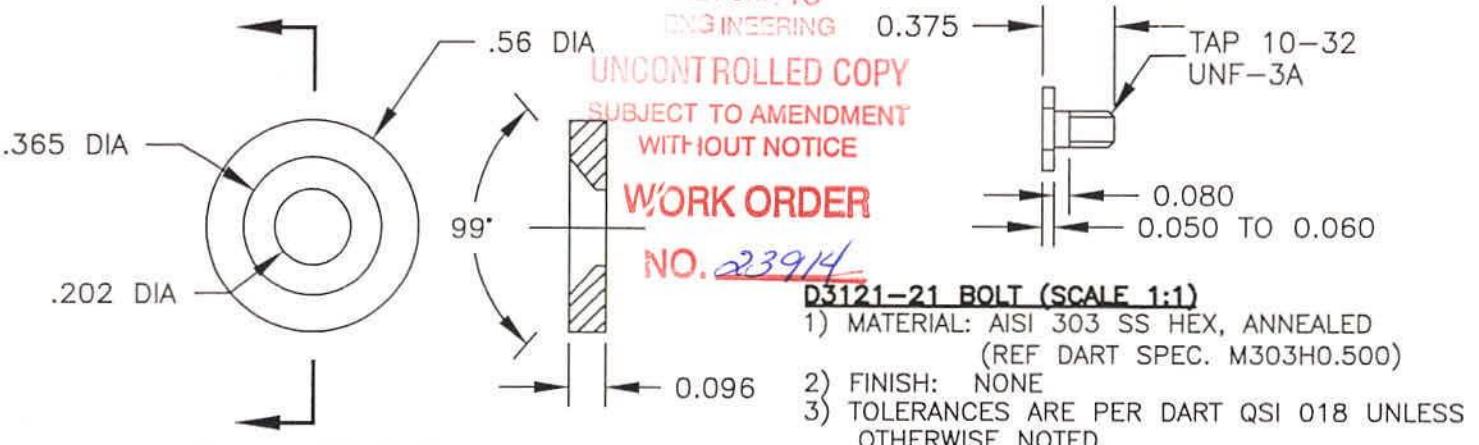
- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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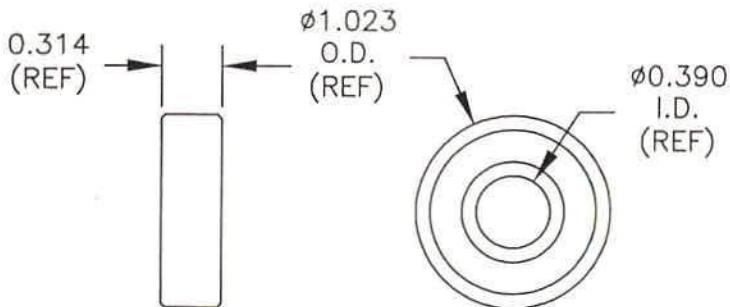
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C
DATE	04.02.17	TITLE	BRACKET ASSEMBLY

SHEET 10 OF 10

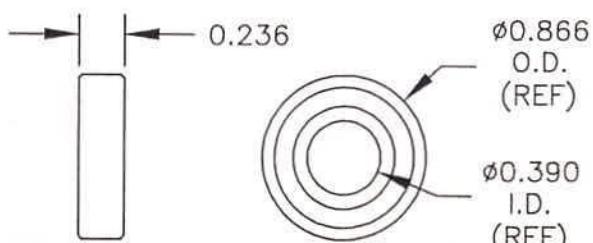
1:1

**D3121-17 WASHER (SCALE 2:1)**

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

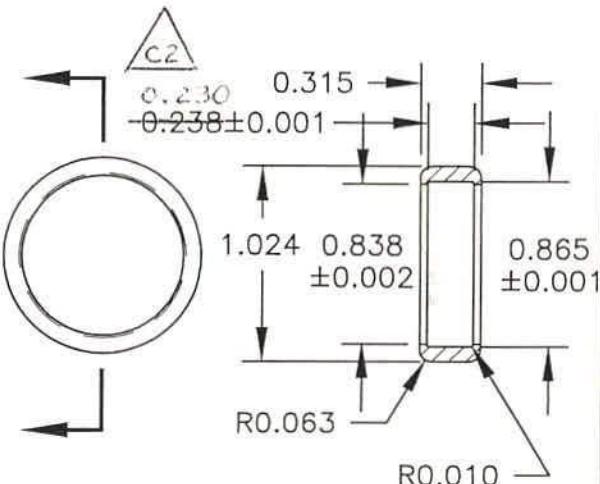
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

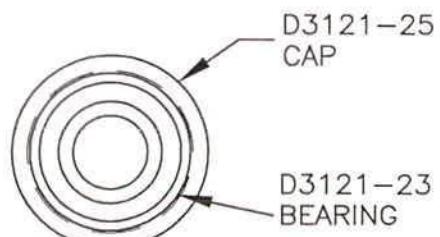
- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3121-241 BEARING ASSEMBLY (SCALE 1:1)**

RELEASER
04.03.01

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Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Aug 02, 2005
01:38 pm

Work Order No : 0023914
Project Name : D3121-21 Department Code:
Project For : WK532 Burden Flags : NNNNNNN
Work Order Type : Main WO Status : Open
Main WO Number : Invoice State : Not Invoiced
House Part Number : D3121-21 Invoice Date :
Description : Bolt Invoice Number :
Manufactured : Yes Invoice Amount : 0.00
Amount Req'd : 100
Amount Done : 0 Order Entry No :
Start Date : 08-02-05 OE Value : 0.00
Est Finish Date : 08-10-05
Act Finish Date :
Drawings Reqd : No Est Margin : 0.000%
Ok for Approval : Actual Margin : 0.000%
Approval Rec'd : \$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	0.00	0.00	0.00	0.00	0.00
Engineering Hours	0.00	0.00	0.00		
Engineering Cost	0.00	0.00	0.00	0.00	0.00
Production Hours	0.00	0.00	0.00		
Production Cost	0.00	0.00	0.00	0.00	0.00
Packaging Hours	0.00	0.00	0.00		
Packaging Cost	0.00	0.00	0.00	0.00	0.00
OverHead Hours	0.00	0.00	0.00		
OverHead Cost	0.00	0.00	0.00	0.00	0.00
CNC Hours	0.00	0.00	0.00		
CNC	0.00	0.00	0.00	0.00	0.00
Misc. Hours	0.00	0.00	0.00		
Misc.	0.00	0.00	0.00	0.00	0.00
Burden	0.00	0.00	0.00		
Total Cost	0.00	0.00	0.00		
Margin	0.000	0.000			
Selling Cost	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done	0.00	0.00
Profits/(Loss)	0.00	0.00